

REMARKS

This response is filed pursuant to 37 CFR 1.34 by the undersigned attorney having authority to file this response. A revocation and power of attorney will be filed in due course.

As an initial matter, the Examiner pointed out on page 3 that claim 22 was broader in scope than claim 21 due to claim 22 defining hosts that do not fit the definition of microorganism. Claim 21 has been amended to address this issue. New claim 31 is added to specify the host of amended claim 21 as a microorganism.

As for the first point of traversal that traverses the separation of Groups I - IV, the Examiner separates the groups here based upon whether the host is an animal cell (Group I), a plant cell (Group II), a bacterial cell (Group III), or a fungal or yeast cell (Group IV). A single general inventive concept links these groups and they should therefore be examined together. Specifically, the invention provides a production process for cultivating any kind of cell at reduced growth temperature, supported by the genetic manipulation of the cell to express a specific chaperone. The process conducted for any of the types of cells represents a single inventive concept.

As for the second point of traversal that traverses the separation of Groups I-IV from Groups V-VII, the Examiner separates the groups here based upon the sequence being Cpn60 or Cpn10. The Examiner states that Cpn60 and Cpn10 are already known and therefore cannot form a single inventive concept. However, the state of art known from the international search as well as Holland et al in The Plant Journal 1998, which is currently quoted by the Examiner, only show that the chaperones and the cells are each known separately. The prior art lacks any indication or suggestion that the expression of one or more of these chaperones in a cultivated cell supports production of heterologous protein at a reduced cultivation temperature. Holland et al only show that cold-shocked seedlings accumulate HSC protein and also accumulate Cpn60 (page 313, right-hand column). This neither describes that the expression of Cpn60 in a cell nor the effect of Cpn60 to allow cultivation at reduced temperatures, nor does it indicate a process for production of protein in cultivated cells at reduced temperatures. Accordingly, the chaperones Groups I-IV and Groups V-VIII are based on one common concept, namely

the feature of allowing growth of a host cell at reduced temperature, including heterologous protein expression at reduced temperature. As no other chaperones are known which confer the ability for growth and protein production at lower growth temperatures, the group of chaperones is also uniform, even if this same function is provided by a different amino acid sequence in each of Cpn10, Cpn60, and their mutants, respectively. The known prior art does not show a cultivation at lower growth temperatures supported by expression of a gene product in the production host cell. As the search results in this application do not show the property of a gene product to allow growth at lower temperatures, this feature is novel and inventive and also provides for unity of all of the claimed chaperones.

The third and final point of the traversal traverses the separation of separation of Groups I-XII from Groups IX-XII. These groups including claims 27-30 also relate to the single inventive concept discussed above, namely cultivation at lower growth temperatures due to expression of a gene product in the production host.

The election of species requirement is separately traversed. The mutants, along with the native Cpn10 and Cpn60, form one coherent group of chaperones, because they are believed to be the first proteins that are used for the first time in a production process of cells at lower grow temperature, and each of the chaperones has the common characteristic property to support protein expression at the low growth temperature, resulting in a correctly folded protein to be expressed.

For the above particular reasons, withdrawal of the multiple bases for restriction and election of species is requested. Applicant respectfully requests joint examination of all claims.

Respectfully submitted,

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August 27, 2009

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